

II.—*On a large Fossil Egg from the neighbourhood of Cherson.*

By Dr. ALEXANDER BRANDT*.

A SHORT time since, Herr E. Dobrowolsky offered to sell to me for the zoological museum of the Academy an apparently very remarkable egg. As regards its purchase the Direction of the museum could do nothing, since the sum asked (1000 roubles) was by no means suitable to the very moderate means of the museum. Herr Dobrowolsky was nevertheless so good as not only to assist me in describing the egg by permitting me to make an accurate examination of it and by giving me the necessary particulars as to its discovery, but also to allow me to have a plaster cast prepared of it.

The egg is stated to have been found, at least fifteen years ago, at Malinowka, in the province and district of Cherson, in an ancient watercourse or so-called "balka." In a small stream traversing the old watercourse below a wear, the spring floods falling over the latter washed out a channel, from the bottom of which the egg appeared. Being observed by some peasants it was taken up and given to Hr. N. S. T. Malinowsky, an uncle of our informant. The soil from which the egg came was described as a reddish-brown frangible loam, beneath which lay crystalline gypsum. The egg is at present in the possession of Hr. Ssamen Dobrowolsky, the father of my informant, a landed proprietor in the province of Cherson.

I now add a short description of this apparently remarkable egg.

The form of the egg is so nearly that of a regular ellipse, that it is difficult to tell the big end from the little. Yet we may assume the end recognizable by its somewhat less smooth shell to be the big end—a conclusion supported by the well-known ornithologist Herr W. Meves, in whose company I had the pleasure of examining the egg, inasmuch as he has frequently noticed that in birds' eggs generally the big end

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has a rougher texture. The egg has on the whole most resemblance to certain examples of the Ostrich-egg (*Struthio camelus*), which, however, vary excessively in form. Compared with the egg of *Æpyornis**, of which our museum has a plaster cast received from Paris, the present egg is somewhat shorter and more rounded—its short diameter being to its long as 1 : 1·2, while in *Æpyornis* the corresponding proportion is 1 : 1·3.

In respect of size the fossil egg far exceeds the largest Ostrich-egg, without, however, rivalling, except in the most distant degree, that of the *Æpyornis*. Its long diameter measures 18 centimetres, its short 15 cent. (from which the above-mentioned proportion of 1 : 1·2 or 5 : 6 results). The longer circumference measures 52 cent., the shorter 46 cent. The volume was estimated at 2200 cubic centimetres. We may therefore calculate its contents to equal those of from 40 to 44 hen's eggs of ordinary size. For comparison I may remark that the largest Ostrich-egg I could find measured 16 cent. by 13·5, and gave a volume of 1350 cubic cent. (equal to from 25 to 27 hen's eggs)†. The volume of the *Æpyornis*-egg is said to have been reckoned to be equal to that of 148 hen's eggs.

The surface of the egg under the microscope, particularly on one side and near one pole, shows a decidedly rough or bumpy appearance, besides in many places irregularly directed crooked-running shallow scratches, which from their habitus give the idea of very fine vessels on the inner side of the shell, as also deep sharply defined pits, as if made by a blunt needle. These last appearances are especially noticeable on the smoother parts of the egg, and represent in a larger proportion the needle-prick-like pits on the eggs of the Ostrich.

* Prof. Brandt spells this word *Epiornis*, as originally written by Isidore Geoffroy St.-Hilaire, the founder of the genus. But the derivation being from *αἰπύς*, there can be no question of *Æpyornis* being the correct orthography.—ED.

† According to Thienemann an Ostrich-egg is (in volume) equivalent to about 30 hen's eggs. ('Fortpflanzungsgeschichte d. gesamm. Vögel,' Leipzig, 1849, p. 6.)

The colour of the egg is a yellowish brown, which is not, however, equally spread over the whole surface, but in patches brighter here and darker there, and hardly represents the original colour. Still less are numbers of blackish dendritic spots irregularly spread over the egg to be reconciled with its original colour. These are certainly either really dendritic, or the remnants of a parasitic vegetation which is often met with in fossil remains.

Of the thickness of the egg-shell nothing definite can be ascertained, since the egg is quite intact, except as regards two cracks, of a hair's breadth, said to have resulted from an attempt to ascertain the contents. In one place a hardly perceptible splinter has been taken off; but the fracture is so thin that it does not extend through the thickness of the shell, and only shows its hard enamel-like substance.

The perfect state of the egg when found proves that it must be empty, and not filled with mineral substance. This is the cause of its weighing so little as to have been swimming in the river when discovered. According to Herr Dobrowolsky's information it weighs about 200 Russian pounds.

According to Eichwald*, fossil remains of birds are very scarce in Russia, although v. Nordmann has discovered some in a tertiary loam near Odessa† (that is, not far from where this egg was found). But as to what genera these bones belong to we find no information recorded.

The above-described form of this egg-shell, as well as its dimensions, lead us first to think of a Struthious bird which in size must have exceeded the Ostrich. This, however, is not the first gigantic bird recorded of the Tertiary epoch of Europe, since fifty years ago remains of such a bird were found in our quarter of the globe—namely, those of *Gastornis parisiensis*, of the Eocene of Meudon, near Paris, allied to the Swimmers and Waders.

* *Lethæa Rossica*, Stuttgart, Bd. iii. 1853, p. 325.

† "Ub. d. Entdeckung reichhaltiger Läger von fossilen Knochen in Süd-Russland," *Jubiläum semiseclare Fischeri de W.* (fol. Moscau, 1847), p. 9.

Since, as is mentioned above, the characters of this egg appear with great probability to indicate its belonging to the Struthious group, I propose to call it, with reference to the unknown gigantic bird, *Struthiolithus chersonensis**.

III.—*On the Distribution of Birds in the Southern Hill-region of Ceylon.* By W. VINCENT LEGGE, Lieut. R.A. 125

THE southern province of Ceylon possesses a range of mountains of its own, quite distinct from the central zone, inasmuch as it is separated from that region by a long strip of low country extending from the western province, on the south of Ratnapoora, through, in an easterly direction, to the flat and jungle-clad plains of the south-east of the island. The system commences at the eastern boundary of the Morowa Korle†, at a point thirty miles north of the southernmost extremity of the island (Dondra Head), and, after shooting up at once from the plains of Hambantotte and culminating in its highest point, 4500 feet, stretches away in a westerly direction to a point some twenty miles from the sea on the west coast. The river Gindurah rises in the highest portion of the range, and takes a westerly course, separating it into two parts by a deep valley, in the north of which numerous spurs shoot out into the Saffragam district, while on the south the higher mountains are supplemented by many smaller parallel-lying ridges, which again break into an endless succession of smaller hills, dwindling down until they form the undulating country in the immediate vicinity of Point de Galle. The south-west corner of Ceylon may therefore be said to be a perfect labyrinth of hills, clothed in their highest parts with lofty primeval forest, except where the axe of the mountaineer has left its mark in the course of hill-grain cultivation, and covered in the lower districts with secondary or scrubby jungle, in the composition of which the small bamboo (*Ochlandra* 125

* Subsequently Professor Kessler has informed me that he had this egg in his hands some years ago, and attempted unfortunately in vain to acquire it for the zoological collection of the University of Kiev.

† “Korle” corresponds, as a terrestrial division, to *county*.